Industry 4.0
Danish experiences

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Global Forum, Copenhagen, 5. - 6. november 2018

Who is Tom Togsverd?

Ms. E. and Ph.D. from DTU Compute

18 years in Ministry of Finance, Department of the Budget

4 years in Telecom (TDC)

16 years as DG for Danish ICT and Electronic Association in DI

Partner, Indesmatech ApS since 2016

Chairman of Robocluster since 2013

Member of the board of IDA Tele since 2016.

Industry 4.0 characteristics

- Sensors in all products and processes
- All devices, products and processes connected
- Use of big data and AI in cloud or edge
- Info sharing with customers and suppliers
- New production paradigms
- New business models

A. P. Moller-Maersk

- Optimal scheduling, routing and navigation
- Track & trace containers
- Automated logistics in harbour
- Joint blockchain platform for customers and suppliers
- The autonomous ship?

Vestas Windpower

- Big data for site location
- Sensors for monitoring
- Predictive maintenance
- Ultrasound testing
- Production forecast
- Drone inspection

Grundfos: Smart pumps

- Design tools on the web
- Electronic power steering
- Regulation interface for plumbers
- Big data anal. of user data
- AR in production
- Remote controlled operations
- Pump as a service
- Water as a service

SME: Elos Medtech Pinol

3D scanning of mouths

Digital designed implantat

The automatic factory:

- Picking
- Testing
- Packing.

Summing up

- 1/3 of Danish companies use IoT or e-commerce
- Large and Medium sized companies are role models
- Gigantic unused potential in SME's
- Risc of being outcompeted
- Government must fuel SME investments
- All parties must address the competence gap:
    - by attracting skilled workers/candidates
    - by offering in-service training.

Thank you

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